Divar XF Series Hybrid Digital Recorder

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BOSCH
Invented for life

- Real-time H.264 recording and playback in genuine 4CIF resolution
- Hybrid recording of up to 16 analog cameras and up to 8 additional H.264 IP cameras
- Internal storage up to 4TB on four front-accessible hard drives
- On-board RAID-4 support
- Integration with third-party management software using VideoSDK

The Divar XF offers top-of-the-line performance and adaptability. Equipped with four front-replaceable HD drives and extensive integration features, the XF is ideal for medium to large-scale or growing systems. Divar XF's superior image quality and compression gets the most out of CCTV images.

Functions

High performance
With real-time viewing, recording, and playback in genuine 4CIF resolution, the Divar XF captures all the details. More detail typically means increased bandwidth, bigger storage requirements, and increased costs — but not with the Divar XF. Bosch's advanced H.264 compression technology used in the Divar XF reduces bandwidth and storage needs by up to 30% compared to traditional MPEG-4 systems.

Embedded design
The embedded design of the Divar XF offers a higher level of security against network attacks than traditional systems and has lower maintenance requirements. The security of recordings remains high, while the need to install software patches and anti-virus updates is eliminated. Simple to set up and operate, the integrated architecture of the Divar XF makes life easier for both installers and users.

Power to adapt
The world of CCTV is changing — IP is replacing the analog standard in many areas. Divar XF has the power to adapt to this changing environment.
Divar XF is the ideal choice for growing applications which use a mix of analog and IP cameras. It can record 8 or 16 analog cameras and an additional 8 IP channels, all with a real-time frame rate at 4CIF resolution.
With the keyboard loop-through feature, up to 16 Divar XF recorders can be controlled from a single IntuiKey keyboard, creating a cost effective solution for applications with up to 384 cameras.
Bosch's VideoSDK provides a complete toolbox of modules for playback, searching, viewing live images, and more — simplifying integration to other surveillance systems. The VideoSDK even allows integration with specialized software tools such as fraud detection programs for retail applications.
Controlling Divar XF can be automated using CLI (Command Language Interface) commands. This allows Divar XF to be interfaced with external software (over RS232 or IP), which is typically used to sense alarms or handle access control on an existing (embedded) computer system. Functions include front panel emulation, configuration, and viewing status

information. For instructions on how to use the CLI, please refer to the documentation on the Bosch Security Systems website.

Ease-of-use
Divar XF's four internal hard drives can be accessed via the front without opening the unit, simplifying service and making it easy to add additional storage on-site when needed. The disks can also be configured as a RAID 4 array for extra reliability. Export recordings by simply downloading them to a USB memory device, burning them to the optional built-in DVD recorder, or export them remotely via the Control Center software. Divar XF makes it easy to manage and transport images.
The Divar XF's intuitive interface with clear, menu-driven options is quick to learn and easy to use. Choose from a selection of control devices, including a mouse or CCTV keyboard. Flexibility is also abundant with Divar XF's extensive range of advanced functionality. Other convenient features include remote playback capability and dual VGA monitor support.
Live viewing, playback, configuration, remote management – it's all simple and straightforward with the Divar XF.

Comprehensive interfaces
Flexible interface options make it easy to connect to a variety of external devices.

- Up to 16 video input and output channels
- Up to 16 audio inputs and two dual-mono audio outputs
- Optional support for up to eight H.264 IP cameras
- Dual monitor output on VGA, BNC, and Y/C outputs
- Up to 4 front-replaceable hard disks with optional RAID-4 support
- Ethernet 10/100BaseT network connection
- Up to 16 alarm inputs and 5 relay outputs
- Biphase connection allows one cable to control Bosch PTZ cameras at a range of up to 1.5 km / 0.9 miles
- Third-party PTZ control via RS422/RS485 connection (Pelco D protocol)
- Bosch IntuiKey support with loop-through function
- Bosch Video Manager support (including Keyboard Expander LTC2604/x0)
- USB connectors front and back – connect a mouse to control the user interface, or archive video to a USB memory stick or similar device
- Optional built-in DVD recorder

Applications
The Divar XF is ideal for:

- Shopping centers and retail applications
- Banks and financial institutions
- City centers and public monitoring applications
- Crowd surveillance
- Casinos and hotel complexes

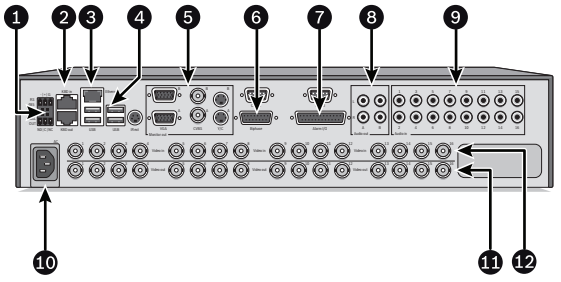
Certifications and approvals

Electromagnetic compatibility	
USA	FCC Part 15, Class B
EU	EMC directive 2004/108/EC
Immunity	EN50130-4
Emission	EN55022 Class B
Mains Harmonics	EN61000-3-2
Voltage fluctuations	EN61000-3-3

Safety	
USA	UL60950-1
EU	EN60950-1
Can	CSA C22.2 No. 60950-1

Region	Certification	
Europe	CE	Deklaracja zgodności
	CE	Declaration of Conformity DHR-A
	CE	Declaration of Conformity DHR-B
USA	FCC	Declaration of Conformity DHR-A
	FCC	Declaration of Conformity DHR-B

Installation/configuration notes



1	RS485 / RS422 / Malfunction alarm
2	Keyboard input and looped-through output
3	Ethernet
4	USB ports
5	A + B monitor connections (VGA, CVBS, Y/C)
6	Biphase connection
7	Alarm inputs/outputs
8	Audio outputs
9	Audio inputs
10	Power input

11	Camera loop through
12	Camera video inputs

Recommended PC requirements for Control Center

Operating system	Windows XP or Vista
	DirectX 9c
Processor	Intel Pentium DualCore, 3.0 GHz or comparable
RAM memory	2048 MB or more
Free disk space	10 GB
Graphics card	NVIDIA GeForce 8600 or higher
Network interface	10/100-BaseT network interface
Operating system	Windows XP or Vista

Parts included

Quantity	Component
1	Divar XF Hybrid Digital Recorder
2	Power supply cords
1	USB mouse
1	CD-ROM containing the software and manuals
1	Quick installation guide
1	Installation manual
1	Divar XF operation manual
1	Divar XF Control Center and Archive Player operation manual

Technical specifications

Electrical

Rated Voltage and Power

Power input	100 to 240 VAC; 50/60 Hz
Power consumption	Max. 2.5 to 1.0 A (250 Watt)

Video

Video standard	PAL or NTSC auto-detection
Resolution	704x576 PAL, 704x480 NTSC
Compression	H.264
Inputs	8 or 16 composite video 0.5 to 2 Vpp, 75 ohm automatic termination
Outputs	8 or 16 composite video 1 Vpp, 75 ohm, sync 0.3 V ± 10%

Audio

Inputs	8 or 16 line in, mono RCA, 1 Vpp, 10 kohm
Output	2 line out, dual mono RCA, 1 Vpp, 10 kohm
Compression	MPEG-2 layer II
Sampling rate	48 kHz per channel

Monitors

MON-A	Live, playback, menus
	VGA: analog RGB 1280x1024, 60/75 Hz (NTSC/PAL)
	CVBS: 1 Vpp, 75 ohm, BNC
	Y/C
MON-B	Live
	VGA: analog RGB 1024x768, 60/75 Hz (NTSC/PAL)
	CVBS: 1 Vpp, 75 ohm, BNC
	Y/C

Display Modes

Monitor A	Full, full sequence, quad, multi-screen (live and playback), event call-up (live)
Monitor B	Full, full sequence, quad, multi-screen, event call-up (live)
Frame rate PAL/ NTSC	25/30 IPS per channel (real time)
Multiscreen mode 8 channels	1, 4, 9
Multiscreen mode 16 channels	1, 4, 9, 16
Zoom	1.5x, 2x, 3x, 5x

Alarm Handling

Inputs	Screw terminal 8 or 16 inputs configurable NO/NC,
	Max. input 40 VDC
Outputs	Screw terminal 4 relay outputs, configurable NO/NC, max. rated 30 VAC, 40 VDC, 0.5 A, continuous -10 VA
Remote notification	Via Control Center software

Connections

Ethernet	RJ45 modular jack 8 pins shielded:
	10/100 Base-T
Biphase	Screw terminal connector (5 outputs)
	Maximum 5 controllable cameras per Biphase output
	Impedance 128 ohm, max. overvoltage protection ±40 V, max. cable length 1.5 km (0.9 miles)

Note: LTC 8785 translator needed for fixed-speed receivers/drivers

PTZ control interface	RS485
Serial interface	RS232 output signals according to EIA/ TIA-232 F, max. input voltage ±25 V
	2xDB-9 male connector
Intuikey keyboard (KBD Digital or KBD Universal)	Conforms to RS485, max. signal voltage ±12 V, power supply to keyboard 11 to 12.6 VDC at max. 400 mA
	RJ11 modular jack 6 pins
USB	Five USB 2.0 ports

Network	
Bandwidth control	0.1-100 Mbps limiter
Remote users	Maximum 5 simultaneously connected Control Center users
Protocol support	TCP/IP, DHCP, DNS, and SNTP
IP cameras	Up to 8 IP H.264 cameras (optional)
Supported IP H.264 devices	Dinion, FlexiDome, AutoDome Modular, EX series IP cameras, VIP X series encoders (running firmware 3.7 or later, max. 8 channels), and AutoDome Easy

Storage	
Internal HDD	250, 500, 750 GB, or 1 TB per disk Up to 4 hard disks
Redundancy	RAID-4 (4 hard disks) (Optional, license required.) Effective storage = Smallest disk x 3

Exporting	
DVD	Built-in DVD+R/RW recorder (optional)
USB	Flash memory or external HDD (FAT32)
IP	Control Center Software

Security	
Password protection	Multi-level
Image authentication	All recordings and archives in native file format

Record Frame Rate	
NTSC	Up to 30 IPS per channel at 352x240, 704x240 and 704x480
PAL	Up to 25 IPS per channel at 352x288, 704x288 and 704x576
IP Channels	Up to 25/30 IPS per channel at 4CIF dependent on connected IP device.

Recording	
Overwrite modes	Continuous, overwrite after 1 to 99 days
Pre-alarm recording	Up to 120 s

Playback	
Playback function	Fast forward/reverse, frame forward/reverse, freeze
Zoom	1.5x, 2x, 3x, 5x
Search mode	Date/time, Event (motion, input)

Mechanical

Dimensions (W x D x H) (excluding cabling)	446 x 443 x 88 mm (17.6 x 17.4 x 3.5 in)
Weight (incl. 4 hard disks)	Approx. 11 kg / 24 lbs
Rack mount kit (included)	For mounting one unit in an EIA 19” rack

Environmental

Operating temperature	+5 °C to +45 °C (+41 °F to +113 °F)
Storage temperature	-25 °C to +70 °C (-13 °F to +158 °F)
Relative humidity	Operating: <93 % non-condensing
	Storage: <95 % non-condensing

Ordering information

Divar XF 8CH 250GB
8-channel Digital Video Recorder 250 GB
Order number **DHR-0800A-025A**

Divar XF 8CH 500GB
8-channel Digital Video Recorder 500 GB
Order number **DHR-0800A-050A**

Divar XF 8CH 1.5TB
8-channel Digital Video Recorder 1.5 TB
Order number **DHR-0800A-150A**

Divar XF 16CH 250GB
16-channel Digital Video Recorder 250 GB
Order number **DHR-1600A-025A**

Divar XF 16CH 500GB
16-channel Digital Video Recorder 500 GB
Order number **DHR-1600A-050A**

Divar XF 16CH 1.5TB
16-channel Digital Video Recorder 1.5 TB
Order number **DHR-1600A-150A**

Divar XF 16CH 3TB
16-channel Digital Video Recorder 3 TB
Order number **DHR-1600A-300A**

Divar XF INT. DVD 8CH 250GB
8-channel Digital Video Recorder 250 GB, internal DVD
Order number **DHR-0800B-025A**

Divar XF INT. DVD 8CH 500GB
8-channel Digital Video Recorder 500 GB, internal DVD
Order number **DHR-0800B-050A**

Divar XF INT. DVD 8CH 1.5TB
8-channel Digital Video Recorder 1.5 TB, internal DVD
Order number **DHR-0800B-150A**

Divar XF INT. DVD 8CH 3TB
8-channel Digital Video Recorder 3 TB, internal DVD
Order number **DHR-0800B-300A**

Divar XF INT. DVD 16CH 500GB
16-channel Digital Video Recorder 500 GB, internal DVD
Order number **DHR-1600B-050A**

Divar XF INT. DVD 16CH 1.5TB
16-channel Digital Video Recorder 1.5 TB, internal DVD
Order number **DHR-1600B-150A**

Divar XF INT. DVD 16CH 3TB
16-channel Digital Video Recorder 3 TB, internal DVD
Order number **DHR-1600B-300A**

Divar XF INT. DVD 16CH 4TB
16-channel Digital Video Recorder 4 TB, internal DVD
Order number **DHR-1600B-400A**

Accessories

LTC 2605/91 Video Manager
for use with Divar all Series 1 & 2 models and System4 Multiplexer, 120/230 VAC, 50/60 Hz
Order number **LTC 2605/91**

KBD-Digital Keyboard
IntuiKey Digital Keyboard for use with Divar Digital Video Recorders, System4 Multiplexers, Bosch VMS, and VIDOS
Order number **KBD-DIGITAL**

KBD-Universal Keyboard
IntuiKey Universal Keyboard for use with Allegiant, Divar, System4 Multiplexers, Bosch VMS, and VIDOS
Order number **KBD-UNIVERSAL**

DHR-XS050-A 700 Series Storage Expansion 500 GB
500 GB storage expansion kit
Order number **DHR-XS050-A**

DHR-XS100-A 700 Series Storage Expansion 1 TB
1 TB storage expansion kit
Order number **DHR-XS100-A**

LTC 2604/50 Keyboard Port Expander Unit
System4, 230 V, 50 Hz
Order number **LTC 2604/50**

LTC 2604/60 Keyboard Port Expander Unit
System4, 120 V, 60 Hz
Order number **LTC 2604/60**

Software Options

DXS-ESIP08-A 700 Series E-License 8 IP
700 Series 8 IP e-license
Order number **DXS-ESIP08-A**

DXS-ESRAID-A 700 Series E-License RAID
700 Series RAID e-license
Order number **DXS-ESRAID-A**

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